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## FEDERAL COMMUNICATIONS COMMISSION RADIO FREQUENCY INTERFERENCE STATEMENT

This unit has been type-tested and found to comply with the limits for a Class B computing device in accordance with the specifications for Sub-part J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation.

### *Manufacturer's Instructions and User's Responsibility to Prevent Radio Frequency Interference*

#### Manufacturer's Instructions

The user must observe the following precautions in installing and operating this device:

1. Operate the equipment in strict accordance with the manufacturer's instructions for the model.
2. Plug the unit into a properly-grounded wall outlet and use the power cord supplied with the unit, unmodified.
3. Always operate the unit with the factory-installed cover on the unit.
4. Make no modification to the equipment which would affect its meeting the specified limits of the Rules.
5. Maintain the equipment in a satisfactory state of repair.
6. Use a shielded and properly grounded I/O cable to ensure compliance of this unit to the specified limits of the Rules.

## User's Responsibility

The user is ultimately responsible for correcting problems that arise from harmful radio-frequency emissions from equipment under his control. If this equipment does cause interference to radio or television reception (which can be determined by turning the equipment off and on), the user is encouraged to try to correct the interference by one of the following measures. All of these responsibilities and any others not mentioned are exclusively at the expense of the user.

1. Change in orientation of the receiving device antenna.
2. Change in orientation of the equipment.
3. Change in location of equipment.
4. Change in equipment power source.

If these attempts are unsuccessful, install one or all of the following devices:

1. Line isolation transformers
2. Line filters
3. Electro-magnetic shielding

If necessary, the user should consult the dealer, NEC, or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission to be helpful: "How to Identify and Resolve Radio-TV Interference Problems." This booklet is available from the U.S. Government Printing Office, Washington, D.C. 20402, Stock No. 004-000-00345-4.

### NOTE

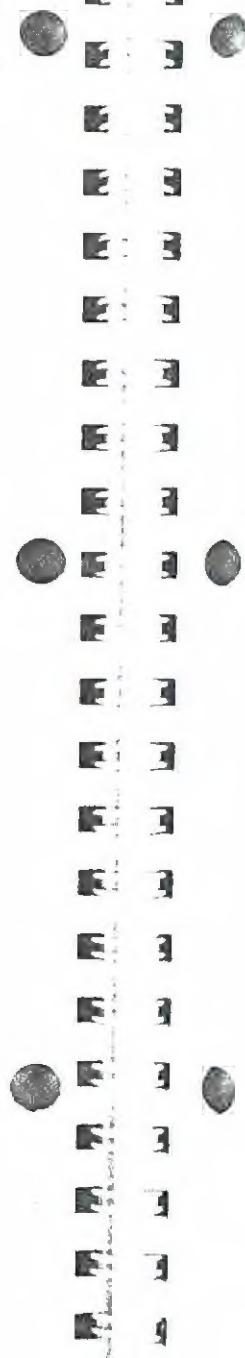
The operator of a computing device may be required to stop operating his device upon finding that the device is causing harmful interference and it is in the public interest to stop operation until the interference problem has been corrected.

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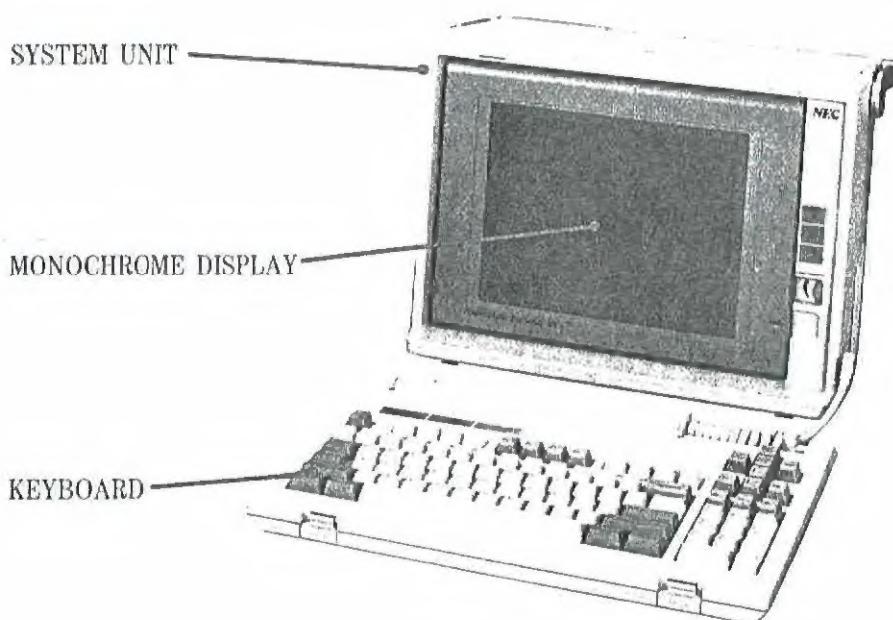


The NEC PowerMate® Portable SX is an advanced high-performance, transportable personal computer (PC). It offers full functionality based on an 80386SX microprocessor. In addition, the PowerMate Portable SX includes a gas plasma display, a 93-key detachable keyboard, and 2 megabytes (MB) of standard memory.

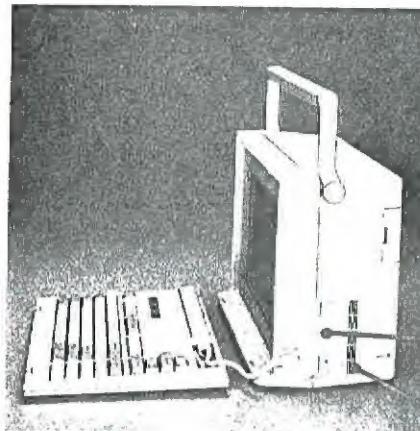
Its light weight and compact size make it perfect for travel and easy to store. The PowerMate Portable SX continues the NEC tradition of quality and reliability.

# System Components

The PowerMate Portable SX has two models. Each has the same three basic components.



The two models differ in the type of magnetic storage devices in the system unit.



The APC-H700X has a single 3½-inch, 1.44-MB diskette drive.

The APC-H702X has a single 3½-inch, 1.44-MB diskette drive and a 42-MB hard disk.

You can add options such as a printer, external diskette drive, or additional memory to your PowerMate Portable SX. Refer to "Options" on page 28.

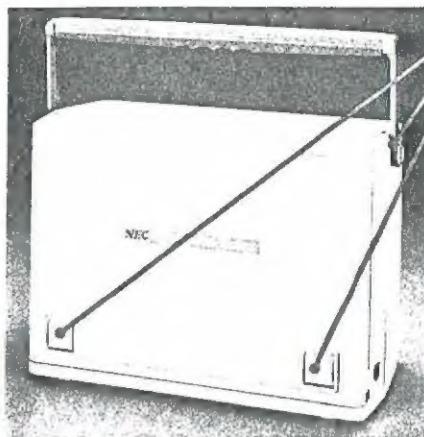
# Setting Up

Setting up your PowerMate Portable SX consists of connecting the keyboard to the system unit, positioning the keyboard and display, and installing the power cord. It's simple to do. And all NEC options come with easy-to-follow installation instructions.

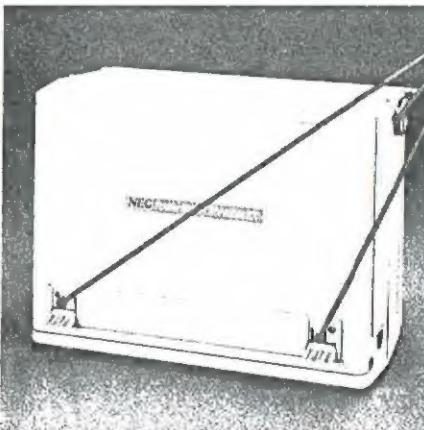
If you plan to keep the PowerMate Portable SX in one spot for a while, consider these suggestions.

- Set up where there is plenty of circulation. Avoid blocking the ventilation holes on the back of the system unit.
- Keep the PowerMate Portable SX away from excessively warm surroundings, direct sunlight, excessive dust, vibration, shock, or moisture.
- Be sure to keep the PowerMate Portable SX away from any devices, such as electric motors or transformers, that generate magnetic fields.

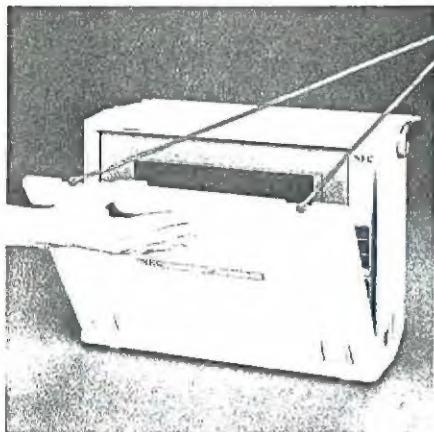
Then complete these steps for setting up.



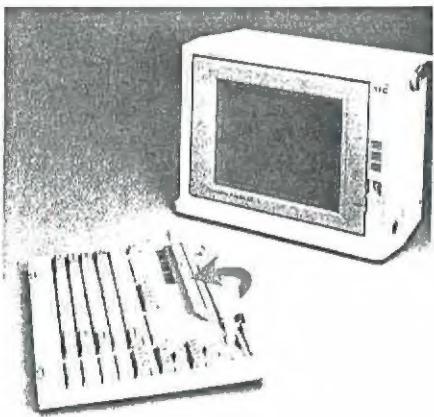
- With the handle up, and the comfort supports facing you, place the PowerMate Portable SX on a flat, sturdy surface.



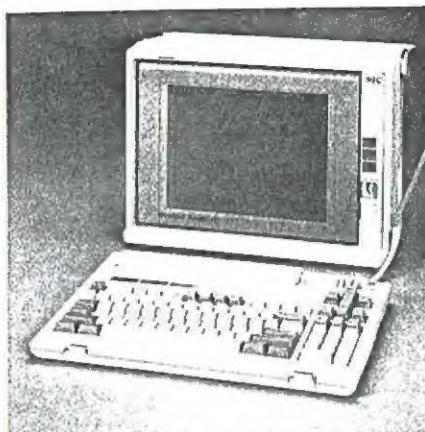
- Lower the handle and comfort supports, if desired.



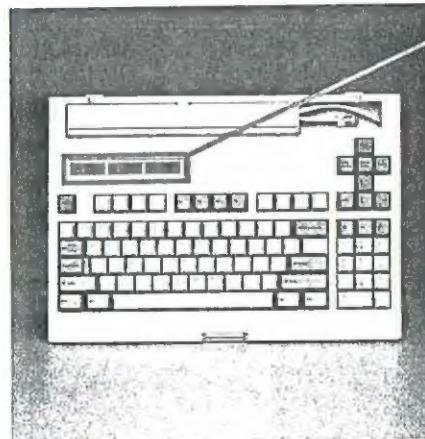
- 4 Release the detachable keyboard by pressing the two keyboard latches. Gently lower the keyboard away from the computer and onto the work surface.



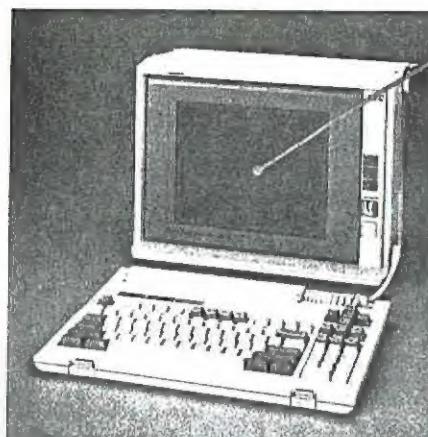
- 5 Press the tab on the cable storage tray cover. Swing the cover forward.



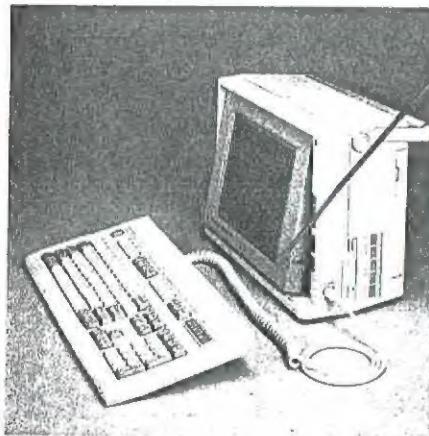
- 6 Lift the cord out of the tray and insert the connector into the keyboard port on the right side of the system unit. The connector is keyed to fit just one way.



- 7 If your keyboard has a protective adhesive strip covering the status lamps, remove it.



- 7 If the display screen is covered by a protective piece of plastic film, remove it.



- 8 You can leave the display in its locked position or press **PUSH** to release and adjust it for more comfortable viewing.

**CAUTION** Be careful not to force the display past its 35° limit of adjustment. When you feel resistance, you've reached the maximum angle position.

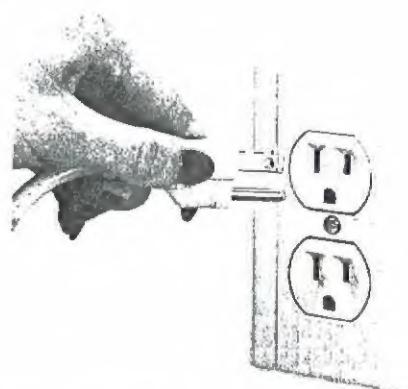
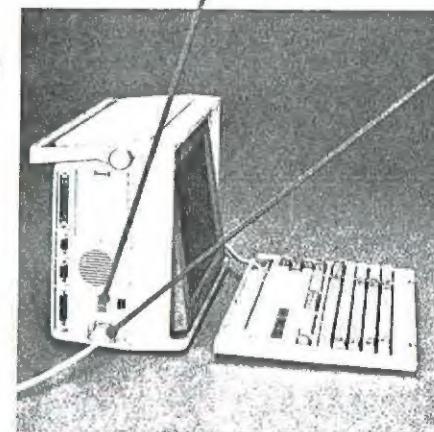


- 9 Check that the 115/230-V power supply switch is set correctly.

The correct setting for the United States and Canada is **115 V**.



- 10 Be sure that the power switch is in the **0** (off) position.



- 11 Plug the power cord into the system unit.

- 12 Plug the other end of the power cord into a properly-grounded outlet.

**NOTE** The PowerMate Portable SX comes with an approved, three-pronged safety cord. To ensure your safety, do not alter the cord.

If you have peripheral options such as a printer, modem, or diskette drive to install, set them up now. Be sure to read the setup instructions that come with the options. Follow the steps for proper connection in the next section.

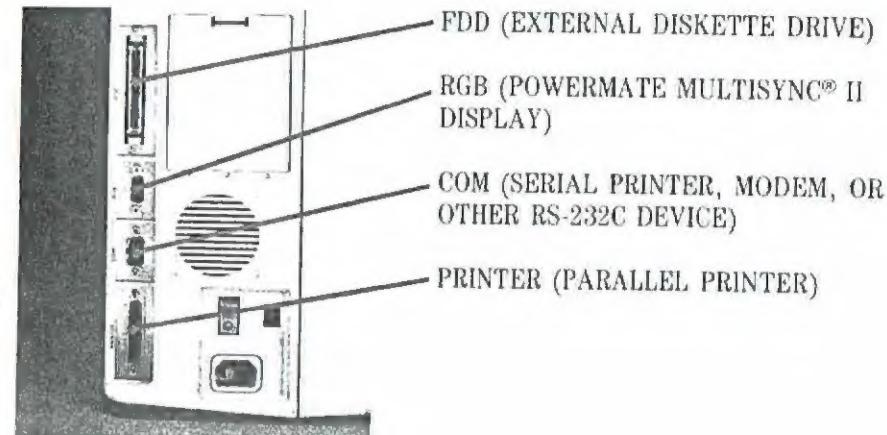
For information on option board installation, see the instructions that come with the board.

After setting up any desired options, go to "Your First Program" on page 19.

## Connecting Peripheral Options

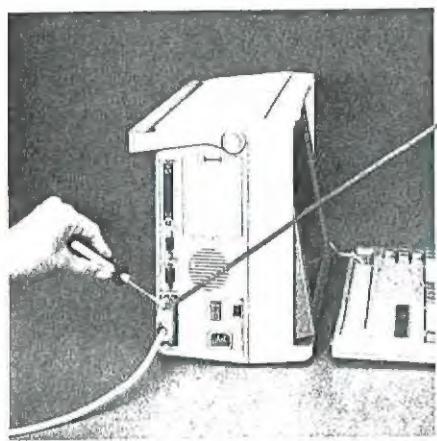
The PowerMate Portable SX has four ports for connecting peripheral options.

These ports are on the left side of the system unit.

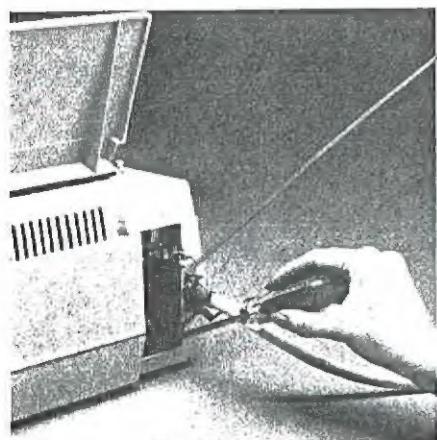


Follow these steps for safe and correct peripheral option attachment.

**NOTE** Be sure that you have set up your option correctly before connecting it to the PowerMate Portable SX. Follow the setup instructions that come with the option.



- 1 Turn off and unplug the PowerMate Portable SX and the option.
- 2 Remove the plastic connector cap and connect the option cable to the correct port on the PowerMate Portable SX. If cable screws are provided, use them to secure the cable connection. A printer cable is shown here as an example.



- 3 Connect the option cable to the option. If screws or connector clips are provided, use them to lock in the cable connection.
- 4 Plug in the PowerMate Portable SX power cord.
- 5 If the option has a separate power cord, plug one end into the option and the other into a properly grounded outlet.

## Features and Controls

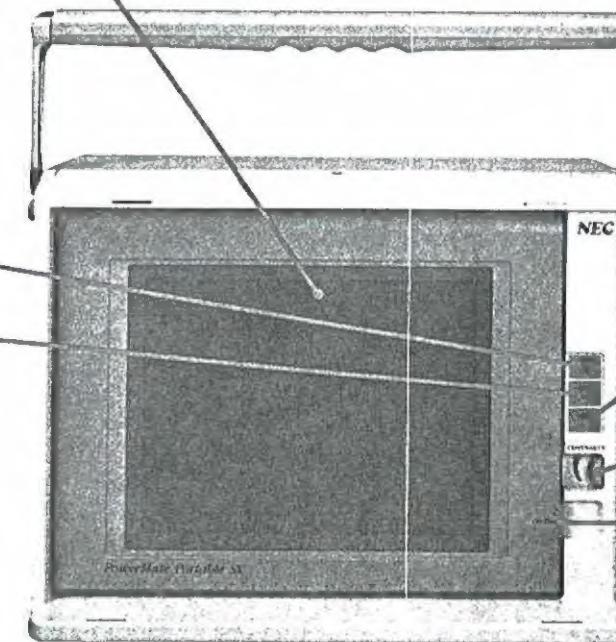
### MONOCHROME DISPLAY

The PowerMate Portable SX features a high-resolution gas plasma display.

NOTE The 8- or 16-MHz clock speed can be changed by keyboard input. To switch the clock speed, hold down the **Ctrl** and **Alt** keys and press the **-** (minus) key on the numeric keypad. Clock speed is also software selectable.

POWER LAMP (Green)  
Indicates power on.

DISK BUSY LAMP (Red)  
Indicates when the hard disk is performing a read or write operation.

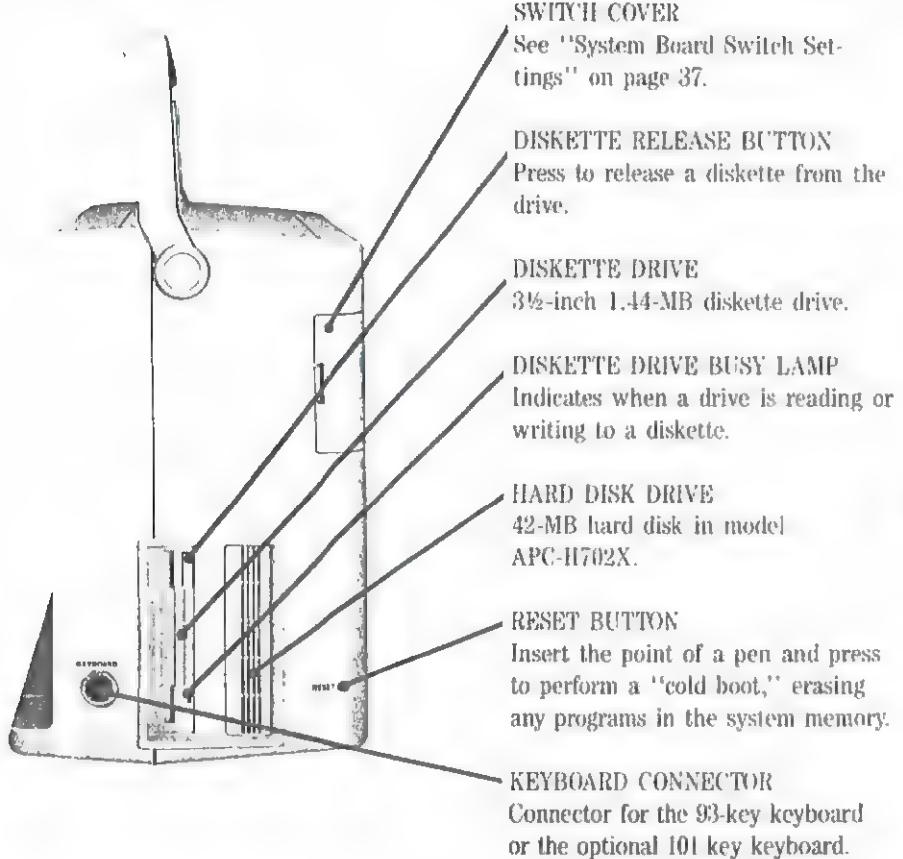


16-MHz LAMP  
Indicates when the system is operating at 16 MHz.

CONTRAST DIAL  
Turn to adjust the display brightness.

DISPLAY RELEASE  
Push to unlock the display for positioning.

## SYSTEM UNIT



### SWITCH COVER

See "System Board Switch Settings" on page 37.

### DISKETTE RELEASE BUTTON

Press to release a diskette from the drive.

### DISKETTE DRIVE

3½-inch 1.44-MB diskette drive.

### DISKETTE DRIVE BUSY LAMP

Indicates when a drive is reading or writing to a diskette.

### HARD DISK DRIVE

42-MB hard disk in model APC-H702X.

### RESET BUTTON

Insert the point of a pen and press to perform a "cold boot," erasing any programs in the system memory.

### KEYBOARD CONNECTOR

Connector for the 93-key keyboard or the optional 101 key keyboard.

### OPTION SLOT COVER

Remove this cover when any option boards are installed.

### FDD (connector for optional 5¼-inch diskette drive)

RGB (analog connector for optional PowerMate MultiSync II display)

COM (connector for optional RS-232C device)

PRINTER (connector for optional parallel printer)

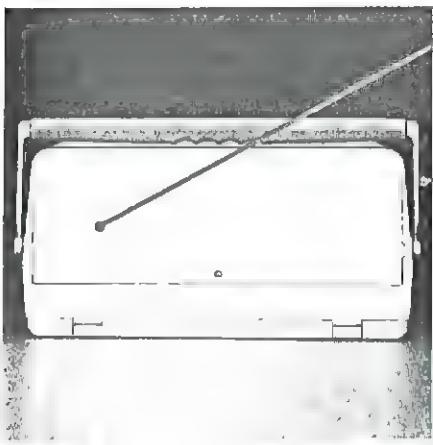
### POWER SWITCH

Press 1 to turn on power.  
Press 0 to turn off power.

### 115/230-V POWER SUPPLY SWITCH

Selectable 115-V or 230-V power supply.

### AC INPUT



**TOP OPTION SLOT COVER**

Covers option slots 1, 2, and 3. Slots are available for optional memory boards or other boards.

**MOVABLE HANDLE**

Use this handle to carry the PowerMate Portable SX from one place to another. It swings down easily for compact PC storage.

## KEYBOARD

The PowerMate Portable SX features a detachable, 93-key keyboard. Often keyboard usage depends upon your software applications program. For specific information, see the guide that comes with your software. General keyboard usage is described below.

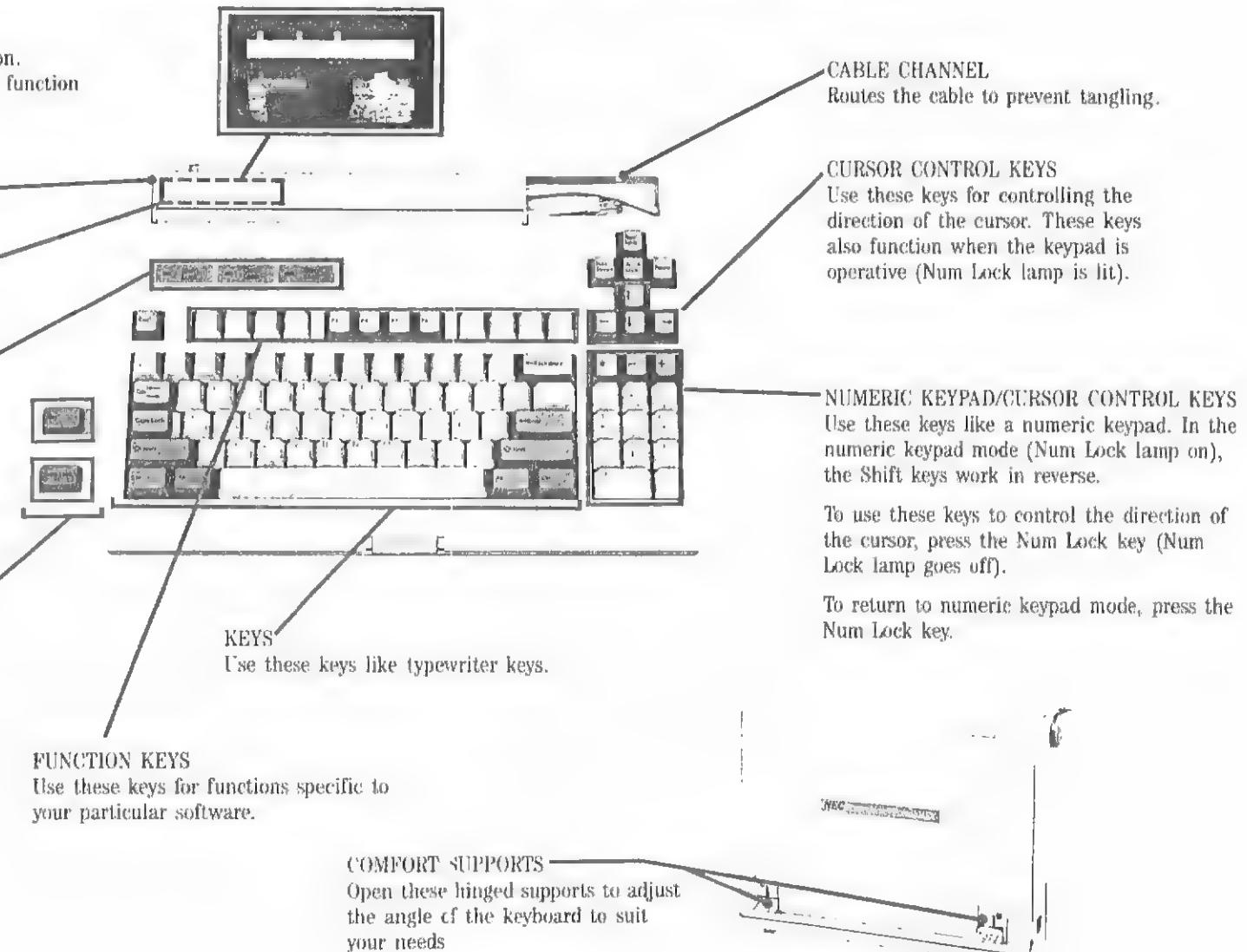
**NOTE** Most of the keys have a repeat function.  
When you hold down a key, the character or function repeats itself until you release the key.

**CABLE STORAGE TRAY**  
Protects the keyboard cable when the PC is in transit.

**SLIDE SWITCH**  
(under cable storage tray cover)  
Turn off the power, *face the keyboard* and slide this switch to the right when you swap the original position of the Ctrl and Caps Lock keys.

**STATUS LAMPS**  
Indicate the status of the Caps (Capital) Lock, Num (Numeric) Lock, and the Scroll Lock keys.

**CTRL and CAPS LOCK**  
Key caps are interchangeable for specific software application program needs.

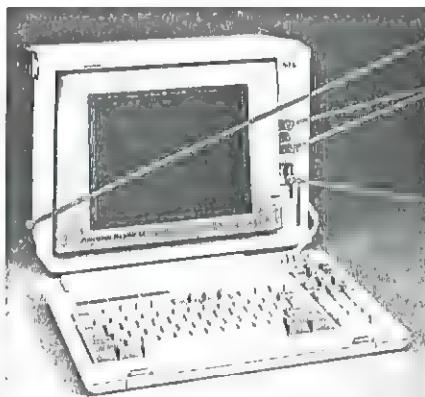


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## Your First Program

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After setting up the PowerMate Portable SX, you must prepare the system for use. The Hardware System Setup diskette that is supplied contains the necessary software to boot-up and ready the system. Follow these steps to get started.



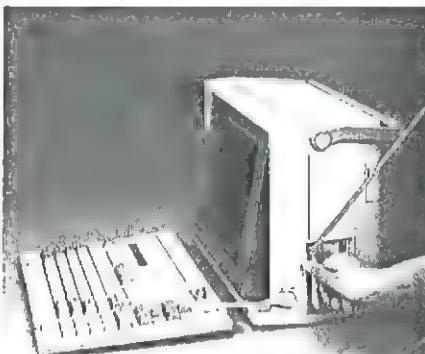
- ① Turn on power.

The **POWER** lamp and the 16-MHz **\*** lamp light.

The power on screen appears.

- ② Adjust the contrast dial to achieve the desired screen brightness.

\* *umschalten: auf DOS-Ebene  
"turbo +"/"turbo -"*



- ③ Insert the System Setup diskette, label side facing left, into the diskette drive.

Be sure to insert the diskette into the drive fully. The diskette release button pops out when the diskette is fully inserted.

- ④ Press **F1** to load the program into memory. The busy lamp on the front of the drive will light.

The drive makes a clicking sound while the program loads. Program loading takes about 10 seconds. One or two beeps indicate that the program is loaded.

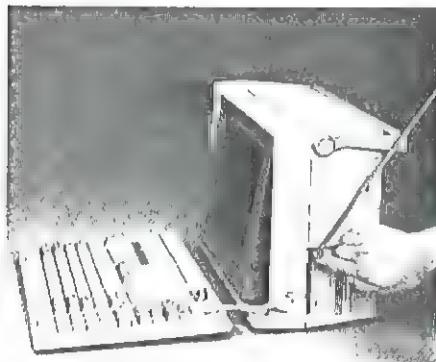


The program's Entry menu appears, indicating the completion of the booting routine.

If anything does not work as described, see "If You Have a Problem," on page 34. After boot-up, go to your Hardware System Setup guide for instructions on how to run the program.

**NOTE** Whenever you install or remove an option, you must run the System Setup program on the Hardware System Setup diskette.

When you are finished running the System Setup program, complete these steps to shut down the PowerMate Portable SX.



- ➊ Press the diskette release button to eject the diskette from the drive.
- ➋ Turn power off.

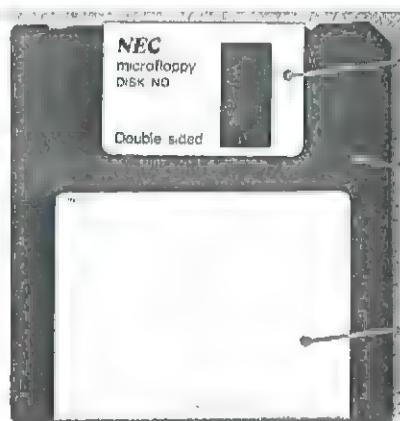
**CAUTION** To avoid diskette damage, never remove a diskette from the drive when the busy lamp is on. Always remove the diskette before turning power off.

## Microdiskettes and Microdiskette Care

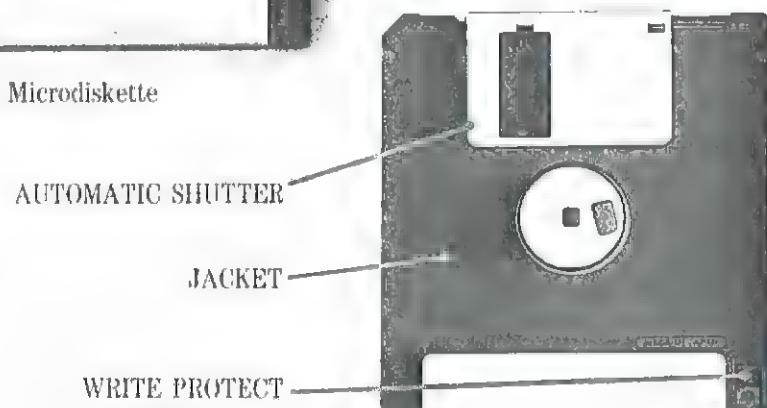
The PowerMate Portable SX uses NEC 3½-inch double-sided, double-density, and high-density microdiskettes.

Each microdiskette is housed in a hard plastic jacket. The diskette surface is protected from fingerprints and dust by an automatic shutter. When the diskette is ejected from the drive, the shutter slides over the exposed read/write area of the diskette.

Each double-sided microdiskette stores up to 1.44 MB, equivalent to about 720 pages of text. You must format blank diskettes to prepare them to store information. Refer to your operating system documentation for formatting instructions.



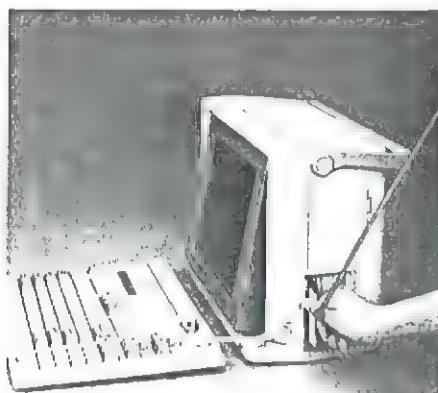
Front of Microdiskette



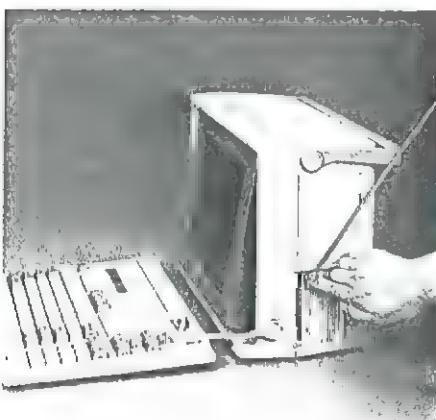
Back of Microdiskette

## INSERTING AND REMOVING A MICRODISKETTE

To correctly insert and remove a microdiskette, follow these guidelines.



- Hold the microdiskette and insert it, label side facing left, into the drive.
- Be sure to insert the microdiskette into the drive fully. The diskette release button pops out when the microdiskette is fully inserted.
- Never insert a microdiskette before turning on power, even if your software instructions say to do so.



- Press the diskette release button to remove the diskette.
- Always remove a microdiskette before turning power off.
- Never press the diskette release button when the busy lamp is on.

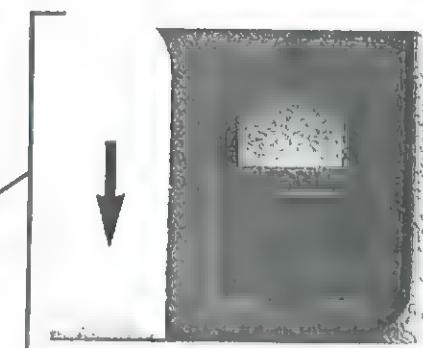
## WRITE PROTECTION

You can write protect your microdiskette to ensure that you do not accidentally overwrite information.

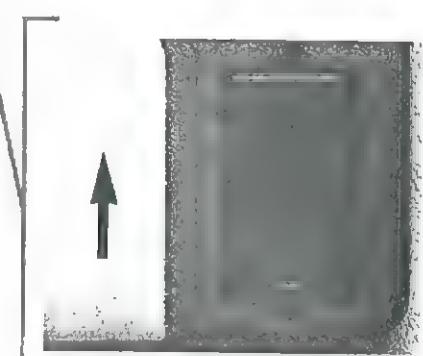
When a diskette is write protected, you cannot store (write) information on it until you remove the write protection.



To write protect a 3½-inch microdiskette, slide the write protect tab to uncover the square hole.



Write Protected



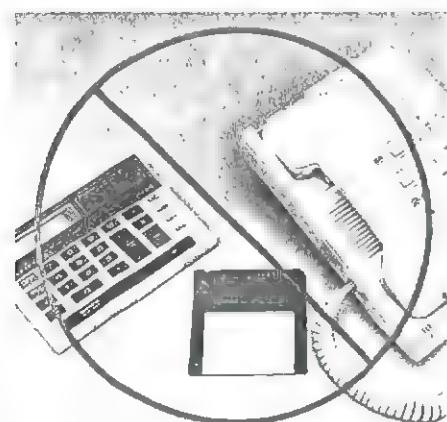
Write Enabled

## PRECAUTIONS

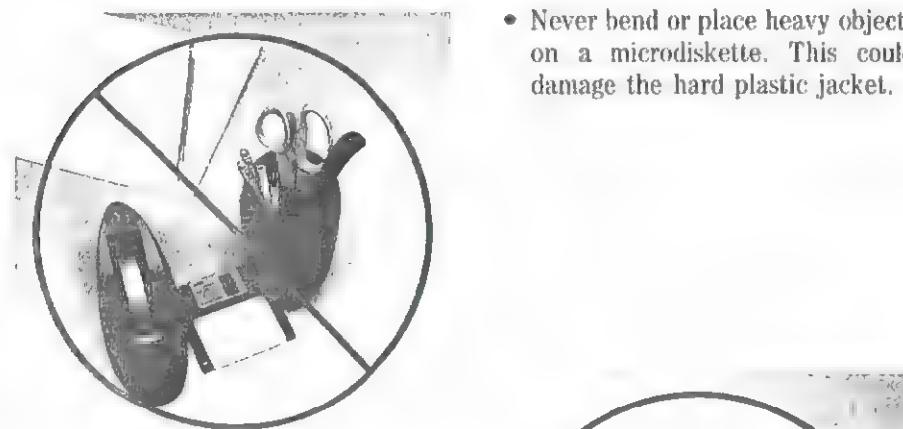
For reliability and protection from data loss, take the following precautions with your microdiskettes.



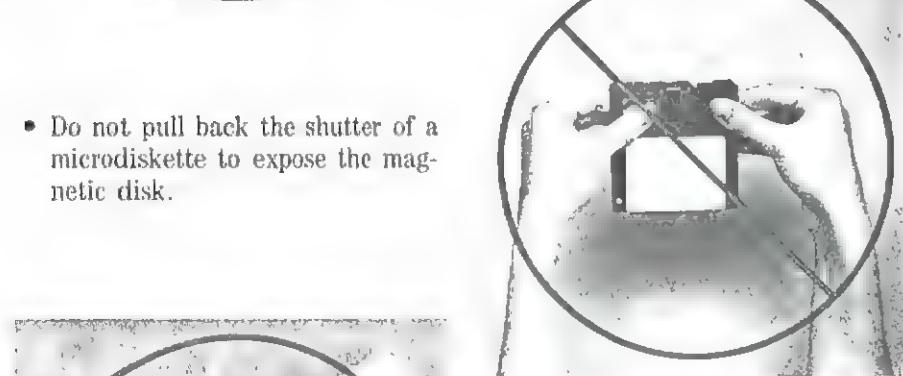
- Never bend or place heavy objects on a microdiskette. This could damage the hard plastic jacket.



- Keep microdiskettes away from magnets or equipment that generates magnetic fields such as telephones, calculators, and dictation equipment.

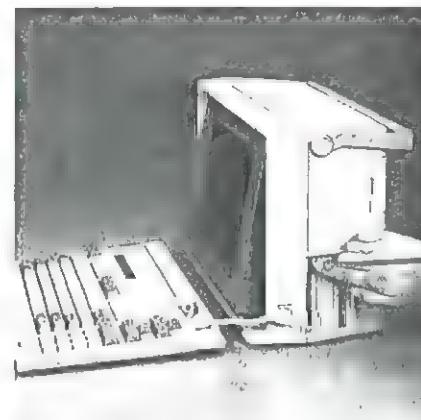


- Do not pull back the shutter of a microdiskette to expose the magnetic disk.



## Moving Your Computer

Light weight and compact size make it easy to move your PowerMate Portable SX. Follow these simple steps when preparing to move your computer from one location to another.



- 1 Be sure to save your files before turning power off. When power is turned off, data in random access memory (RAM) is lost.

Each application program has its own instructions for saving files.



- 2 Press the diskette release button to eject the microdiskette.

- 3 At the A> prompt, key-in RETRACT and press ENTER to retract the heads of the hard disk.

- 4 Turn power off.

- 5 Unplug the power cord from the outlet and from the unit.

Store the power cord in a safe place.

- 6 Disconnect and store any peripheral options.

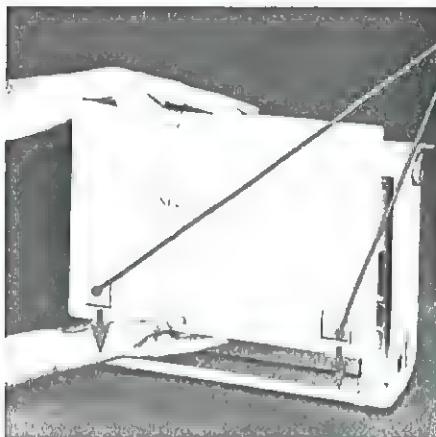
- 7 Disconnect the keyboard and store the cable in the cable storage tray.

- 8 Push in the display to lock it in position.

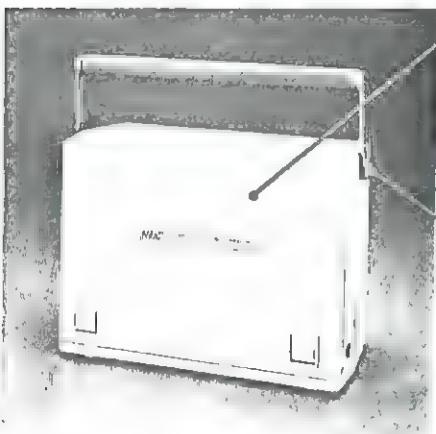
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## PowerMate Portable SX Care

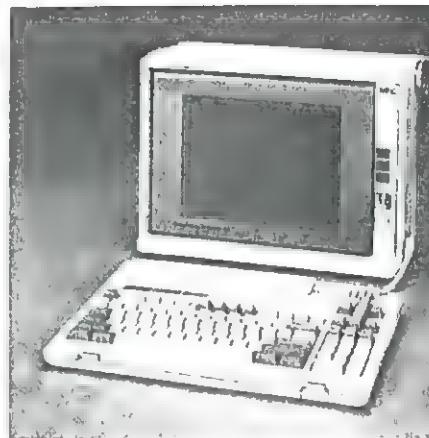
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10 Lift the keyboard and fold the comfort supports inward. Lower the tabs into the holes in front of the display.



- 10 Press the bottom of the keyboard to lock it in position.
- 11 Insert a cardboard shipping blank or a blank diskette in each diskette drive.
- 12 Lift the handle and go!

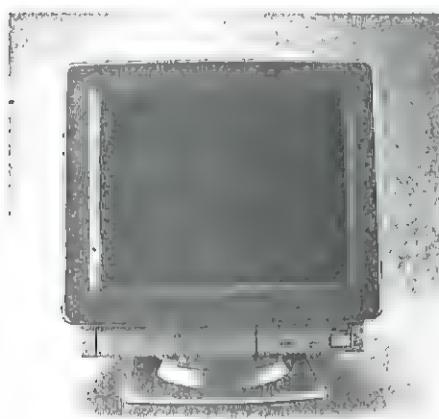


For safety always unplug the PowerMate Portable SX before cleaning it. Periodically clean the outside of the unit with a soft cloth. Remove stubborn stains with a cloth slightly dampened with a mild detergent. Never use strong cleaners or solvents on any part of the PowerMate Portable SX.

# Options

The following paragraphs describe NEC options for the PowerMate Portable SX. Installation instructions come with each option.

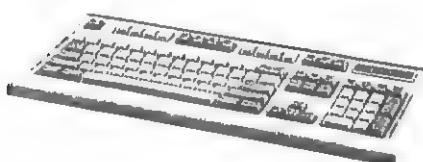
## DISPLAY



### PowerMate MultiSync II APC-H437

NEC's APC-H437 PowerMate Multi-Sync II, a high-resolution color display, provides crisp text and vivid color graphics. The display's 13-inch viewing area has a maximum horizontal resolution of 800 dots and a maximum vertical resolution of 560 lines.

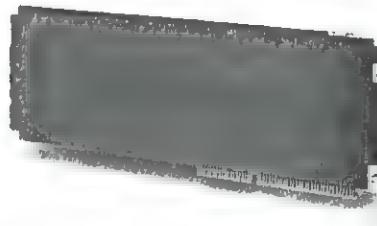
## KEYBOARD



### Enhanced Keyboard APC-H410EA

This industry-standard enhanced 101-key keyboard is compatible with the PowerMate Portable SX and all members of the APC IV and PowerMate series personal computers.

## BOARDS AND CHIPS



### 512-KB 16-Bit Memory Expansion Board APC-H450

Increases the system memory by 512 KB and has sockets on the board for installing up to three APC-H451 Memory Expansion Kits. The board has a total memory capacity of 2 MB. Up to two memory boards can be installed in the PowerMate Portable SX.

### 512-KB Memory Expansion Kit APC-H451

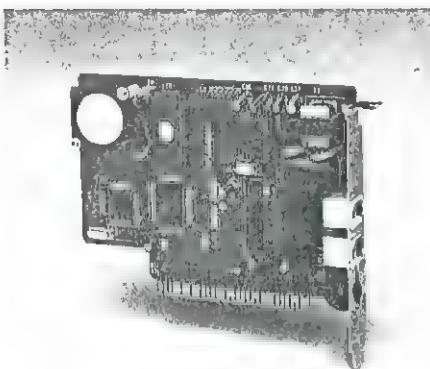
This 18-chip kit adds 512 KB to the APC-H450 Memory Expansion Board.

### 2-MB Memory Module APC-H751X

The high-speed 2-MB Memory module allows you to add 2 MB to system memory.

### Intel 80387SX Math Coprocessor APC-H852

The Intel® 80387SX is an integrated circuit (IC) designed to enhance the processing speed for complicated numerical calculations and graphics routines.

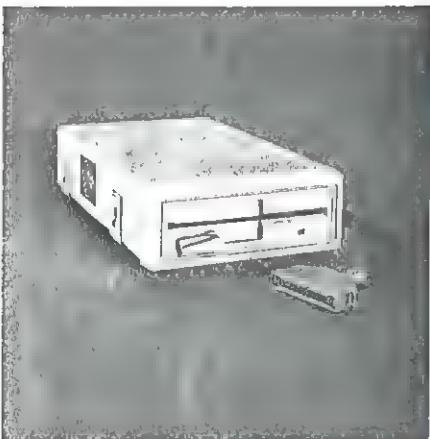


#### **Internal Modem Board APC-H750**

This intelligent modem board permits full-duplex transmission at 300/1200 bits per second (bps) via a slot in the PowerMate Portable SX.

Internal Modem Board

### **DRIVES**



#### **5 1/4-inch 1.2-MB External Diskette Drive APC-H723**

Adds a 5 1/4-inch 1.2-MB external diskette drive to the PowerMate Portable SX.

#### **5 1/4-inch 360-KB External Diskette Drive APC-H724**

Adds a 5 1/4-inch 360-KB external diskette drive to the PowerMate Portable SX.



#### **3 1/2-inch 720-KB Diskette Drive Kit APC-H720**

Adds a second 3 1/2-inch 720-KB internal diskette drive to the PowerMate Portable SX.

#### **3 1/2-inch 1.44-MB Diskette Drive Kit APC-H725X**

Adds a second 3 1/2-inch 1.44-MB internal diskette drive to the PowerMate Portable SX.

#### **3 1/2-inch 20-MB Hard Disk Kit APC-H721X**

Adds a 3 1/2-inch 20-MB hard disk drive to the PowerMate Portable SX.

#### **3 1/2-inch 40-MB Hard Disk Kit APC-H722X**

Adds a 3 1/2-inch 40-MB hard disk drive to the PowerMate Portable SX.

## ACCESSORIES



**Carrying Case**  
APC-H760

This carrying case is designed specifically for transporting the PowerMate Portable SX comfortably.



**Printer Cable**  
APC-H490

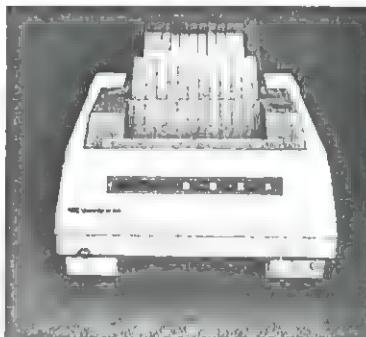
**RS-232C Cable**  
APC-H491

Printer Cable

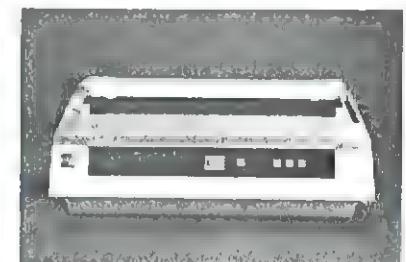
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## NEC PRINTERS FOR THE POWERMATE PORTABLE SX

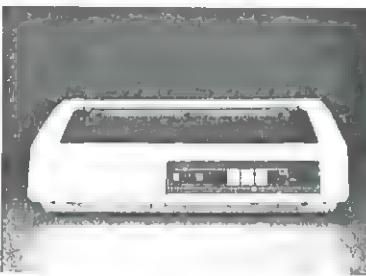
NEC makes several printers that are compatible with your PowerMate Portable SX. These include the following Spinwriter® letter-quality printers, Pinwriter® multimode dot matrix printers, and Silentwriter™ LC-800 page printers.



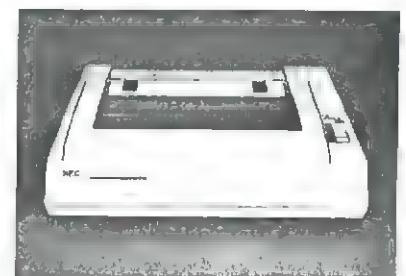
**Silentwriter LC-800**



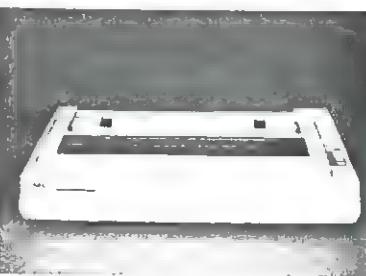
**3550 Spinwriter**



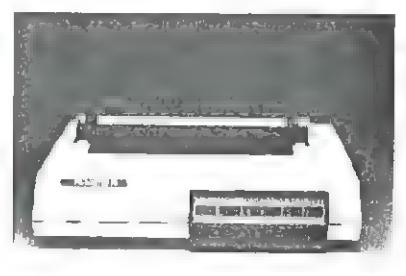
**8850 Spinwriter**



**Pinwriter P6**



**Pinwriter P7**



**Pinwriter P9XL**

# If You Have a Problem

The PowerMate Portable SX has a built-in checking program that automatically tests its components when you turn on power. If there is a problem in the system, intermittent beeping occurs. If this happens repeatedly when you turn on power, turn power off and call your NEC dealer.

If you encounter a problem with the PowerMate Portable SX and beeping does not occur, the problem is usually a simple one that you can solve yourself. First check the items in the following checklist.

- The power switch is on.
- All cables and power cords are tightly connected.
- The power cord is plugged into a working outlet. Test the outlet by plugging in a lamp or other electrical device.
- The 115/230-V power supply switch is set correctly.
- The display contrast dial is adjusted properly.
- Any option that you have installed is designed for the Power-Mate Portable SX and is set up correctly.

If these items do not help, see the following "Solving Problems" table. If you still can't determine the problem, call your PowerMate Portable SX dealer.

## SOLVING PROBLEMS

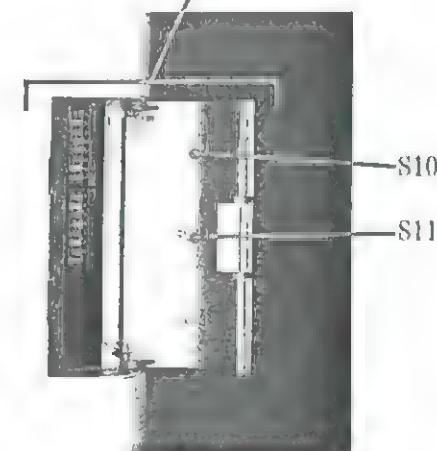
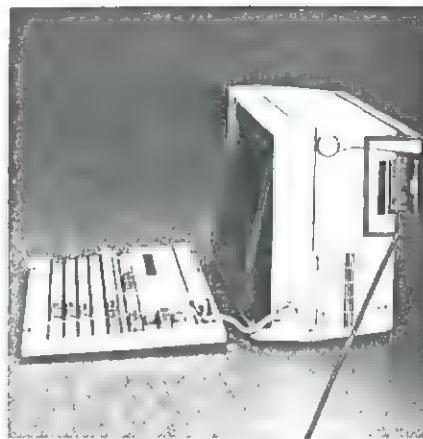
Problems and Symptoms	Corrective Actions
<b>A diskette won't load.</b> <ul style="list-style-type: none"><li>• POWER lamp is on.</li><li>• Diskette drive busy lamp doesn't come on when you insert the diskette.</li><li>• Power-on screen appears on the display.</li></ul>	Check that the diskette is inserted correctly. If so, try a different diskette. If it loads, the problem is in your software. Call your software dealer. If a different diskette won't load, call your PowerMate Portable SX dealer.
<b>The screen stays dark.</b> <ul style="list-style-type: none"><li>• POWER lamp is on.</li><li>• All cable connections are tight.</li><li>• The display contrast dial is adjusted correctly.</li></ul>	Call your hardware dealer.
<b>The display's power-on self-test remains on the screen.</b>	Press F1. If the power-on screen is still displayed, load a different diskette. Press F1. If the second diskette loads, you have a software problem. Call your software dealer.
<b>A distorted image appears on the display screen.</b>	If the power-on screen is still displayed, call your PowerMate Portable SX dealer.
	Adjust the display contrast dial. If that doesn't help, turn the unit off for a few seconds and then turn it back on. If the problem persists, call your hardware dealer.

## SOLVING PROBLEMS (CONT'D)

Problems and Symptoms	Corrective Actions
Keyboard seems "dead."	Be sure that the keyboard connection is tight. If so, call your PowerMate Portable SX dealer.
Graphics characters or "garbage" appear on the screen when you use the keyboard.	Run a different program. If it runs properly, you have a software problem. If it doesn't, call your PowerMate Portable SX dealer.
Constant screen movement.	Magnetic field is affecting your display. If you have another display close by, or other device with a motor generating a magnetic field (for example, a fan), move the display or device away from the affected display.

## System Board Switch Settings

These are the factory switch settings for the PowerMate Portable SX. The switches are located under the switch cover on the outside of the system unit.



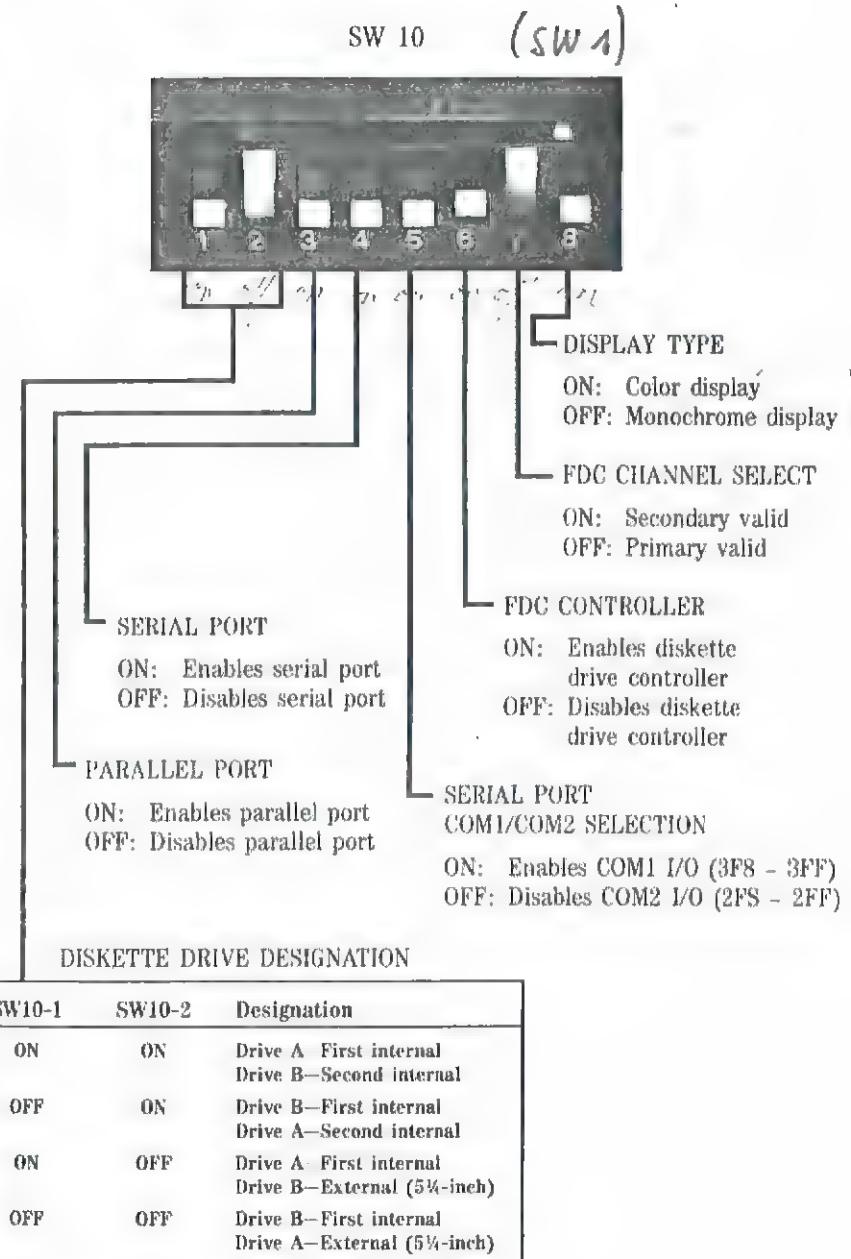
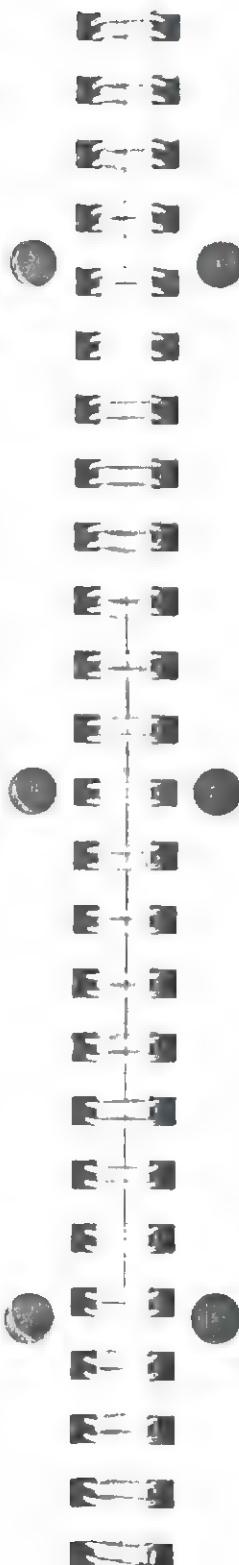
## CHECKING SWITCH SETTINGS

The following pages describe the switch setting functions.

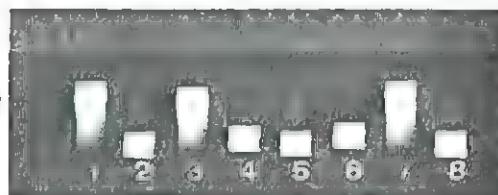
If you need to change any settings for your particular application, follow these guidelines.

**WARNING** Always turn power off before changing any switch setting.

- Use a pointed instrument such as the tip of a ballpoint pen to change any switch settings.
- The ON setting is to the right or down, as depicted in the following diagrams.
- The OFF setting is to the left or up, as depicted in the following diagrams.



SW11 (SW 2)



**SCREEN TYPE**

ON: CRT display  
OFF: Plasma display

VIDEO GRAPHICS  
ADAPTOR (VGA)  
16-BIT ROM BIOS  
ACCESS  
Must be ON

CHARACTER INTENSITY  
ON: Bold character  
OFF: Contrast character

SCREEN MODE  
ON: Flat panel mode  
OFF: CRT mode

VIDEO GRAPHICS  
ADAPTOR (VGA)  
16-BIT MEMORY ACCESS  
Must be ON

VIDEO GRAPHICS  
ADAPTOR (VGA)  
ON: VGA enabled  
OFF: VGA disabled

**MEMORY ENABLEMENT**

ON: Base System Memory = 512 MB  
OFF: Base System Memory = 640 MB

**NORMAL/REVERSE  
DISPLAY SELECTION**

ON: Normal (black text on white background)  
OFF: Contrast reverse (white text on black background)

# Specifications

The following specifications are standard except where noted.

## System Processor

Intel 80386SX

Word Length — 16 bits

Clock Rate — 16/8 MHz, changeable through keyboard input as well as software selectable

## Random Access Memory (RAM)

Standard Size — 2 MB

Optional — three option slots available, total system memory capacity expandable to 16 MB

## Read-Only Memory (ROM)

64 KB

## Calendar Clock

Year/month/day/hour/minute/second/0.01 second, battery-backed

Battery Type — lithium, non-rechargeable

## Input/Output (I/O) Facilities

Parallel — one integrated port

RS-232C — one integrated serial port, asynchronous communication, up to 9600 bps

Color Display — Red, Green, Blue (RGB) D-sub, 15-pin analog port

Diskette Drive — port for one external 5½-inch 1.2-MB or 360-KB diskette drive

## Option Slots

Three Slots — 8/16 bit, full size

## Display

### Gas Plasma

Screen Size — 640 × 480 dots

Dot Pitch — 0.33 mm × 0.33 mm

Dot Size — 0.2 mm × 0.2 mm

Effective Area — 211 mm × 158.4 mm

Dimensions — 293 mm × 197 mm × 21 mm

Gray Scale — 16 shades

## Keyboard

Design based on industry-standard keyboard.

Total Number of Keys — 93

Special Function Keys — 12 keys, capable of up to 48 function selections

Status Lamps — capital lock, numeric lock, and scroll lock keys

Numeric Keypad — standard

Separate Cursor Control Keys — standard

Interchangeable "Ctrl" and "Caps Lock" key caps

## Diskette Drives

### Packaging

- One internal 3½-inch, 1.44-MB drive — standard
- External 5¼-inch, 1.2-MB (APC-H723)  
or 5¼-inch, 360-KB (APC-H724) — optional

### Formatted Diskette Capacity

- 1.44 MB
- APC-H723 — 1.2 MB
- APC-H724 — 360 KB

### Rotation Rate

- 1.44 MB — 300 rpm
- APC-H723 — 360 rpm
- APC-H724 — 300 rpm

### Transfer Rate

- 1.44 MB — 500 KB/sec
- APC-H723 — 500 KB/sec
- APC-H724 — 250 KB/sec

## Controller and Video Graphics Adaptor

Implemented on system board

## Hard Disk Drives

Packaging — One internal 3½-inch, 42-MB drive

Formatted Disk Capacity — 42 MB

Internal Configuration — four disks, eight heads

Number of Cylinders — 642

Data Transfer Rate — 625 KB/second

Rotation Rate — 3,600 rpm ±0.5%

Access Time (average) — 28 ms

Start Time — 15 sec maximum

Stop Time — 15 sec maximum

Recording Method — Modified Frequency Modulation (MFM)

### Recording Density

- 14,000 bits per inch
- 850 tracks per inch

## Dimensions

### System Unit

- Height — 11.2 in. (28.4 cm)
- Width — 15.7 in. (40.0 cm)
- Depth — 7.6 in. (19.5 cm)

### Keyboard

- Height — 1.2 in. (3.0 cm)
- Width — 14.7 in. (37.3 cm)
- Depth — 10.3 in. (26.1 cm)

### Weight

- APC-H700X — 19.3 lb (8.7 kg)
- APC-H702X — 21.0 lb (9.5 kg)

### Power

Universal power supply, 115/230 V, switch selectable

### Recommended Operating Environment

Temperature — 50°F to 95°F (10°C to 35°C)

Relative Humidity — 20% to 80%

### Operating System

MS-DOS®

### Supplied Software

MS-DOS Operating System

OS/2™ (Optional)

Windows/386 (Optional)

## Glossary

**applications programs** Programs designed for a specific purpose, such as for solving a particular business or mathematical problem.

**asynchronous communications** Method of data transmission where characters are preceded by a start bit and followed by a stop bit, permitting the time between characters to vary.

**bit** Binary digit. The smallest unit of computer data.

**board** Printed circuit board. Board onto which computer components are soldered and thin wires are printed to connect the components.

**boot** To start up a computer program.

**bps** Bits per second, a unit of transmission. Also called baud rate.

**busy lamp** Indicator on the front of diskette drive that lights when the drive is writing to or reading from a diskette.

**byte** Group of eight bits.

**chip** Integrated circuit. A miniature circuit made by etching electronic components on a silicon wafer.

**clock** Electronic timer used to synchronize computer operations.

**cold boot** Restarting the computer by turning it off and then on.

**cursor** An image on the display screen that indicates where the next entered data will appear.

**diskette** A thin flexible platter coated with magnetic material for storing information.

**diskette drive** A magnetic device that writes on and retrieves data from a diskette.

**diskette release button** Button on the front of a 3½-inch diskette drive used to eject the microdiskette.

**double-density** Refers to how information is "packed" onto a diskette. Information on double-density diskettes is packed at twice the density of that on a single-density diskette.

**formatting** Preparing of a diskette to accept data.

**full-duplex transmission** Simultaneous two-way independent transmission.

**hard disk** A rigid magnetic storage device that provides fast access to stored data.

**hardware** The electrical and mechanical parts from which a computer is made.

**high capacity** Refers to a diskette with higher than standard storage (1.2 MB). Also refers to the drive which uses high-capacity diskettes.

**Hz** Hertz. A unit of frequency equal to one cycle per second.

**interface** A connection that enables two devices to communicate.

**KB** Kilobyte. 1024 bytes.

**load** To enter a program into the computer's memory from a storage device.

**MB** Megabyte. 1024 kilobytes; 1,048,576 bytes.

**memory** An electronic part of a computer that stores information.

**menu** A video display of programs or tasks.

**microdiskette** A 3½-inch diskette.

**microprocessor** A central processing unit (CPU) often contained on a single chip. One of the principal components of a microcomputer.

**modem** MOdulator-DEModulator. A device that links computers over a telephone.

**monochrome** A video display that features different shades of a single color.

**option** Add-on hardware that expands the PowerMate Portable SX power and versatility.

**option slot** Location inside the system unit for the connection of an optional printed circuit board. There are three option slots available in the PowerMate Portable SX to expand the computer's capabilities.

**overwrite** Storing information at a location where information is already stored, thus destroying the original information.

**parallel interface** Interface that communicates eight bits at a time.

**parallel printer** A printer with a parallel interface.

**peripheral** Input or output device not under direct computer control.

**pixels** Picture elements. Tiny dots that make up a screen image.

**port** Place on a computer for plugging in peripherals.

**processor** A computer on a chip.

**RAM** Random access memory. Temporary read/write memory that stores information only when the computer is on.

**read** To extract data from a storage device such as a diskette or memory.

**ROM** Read-only memory. Permanent computer memory that cannot be modified by the user.

**RS-232C** Standard interface for serial devices.

**serial interface** An interface that communicates information one bit at a time.

**serial printer** A printer with a serial interface.

**software** Computer programs.

**synchronous communication** Method of data transmission where transmission is regulated by a clock.

**system board** The main printed circuit board inside the system unit into which other boards are connected.

**system unit** The PowerMate Portable SX component that contains the computer parts, disk drives, and option boards.

**VRAM** Video random access memory.

**write** To record or store information in a storage device.

**write protecting** Allows reading from a diskette but prevents writing to the diskette.

**writer protect tab** Sliding tab that allows a 3½-inch microdiskette to be write protected or write enabled.

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## **USER'S COMMENTS FORM**

**Document:** PowerMate® Portable SX Owner's Guide

Document No.: 819-180113-000 Rev. 00

Please suggest improvements to this manual.

Please list any errors in this manual. Specify by page.

**From:**

Name \_\_\_\_\_ Title \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

Date: \_\_\_\_\_ Business Phone No.: \_\_\_\_\_

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